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FLYNN THIEL BOUTELL & TANIS, P.C.
2026 RAMBLING ROAD
KALAMAZOO, MI 49008-1631

EXAMINER
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte TAKAHIRO KURONO, KAZUNORI KONDO, HIROFUMI SEI, and EICHI SATO

Appeal 2015-005885
Application 13/511,272
Technology Center 1700

Before ROMULO H. DELMENDO, ELIZABETH M. ROESEL, and JENNIFER R. GUPTA, *Administrative Patent Judges*.

GUPTA, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants[1] appeal under 35 U.S.C. § 134(a) from the Examiner's decision[2] finally rejecting claims 2, 5, and 6. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] Appellants identify the real party in interest as Taiho Kogyo Co. Appeal Brief filed November 7, 2014 ("Br."), 1.

[2] Final Office Action mailed March 13, 2014 ("Final Act.").

The subject matter on appeal relates to a method for manufacturing a sliding member having a large number of indents. Spec. ¶ 1. Claim 5, reproduced below, is illustrative of the claims on appeal.

> 5. A method of manufacturing a sliding member made up of a sintered alloy layer having indents formed in a front surface thereon and laminated onto a front surface of a back metal, comprising the steps of:
>
> sprinkling powder of at least one metal over the front surface of the back metal;
>
> conducting a primary sintering of the powder of the at least one metal to laminate and form the sintered alloy layer on the front surface of the back metal;
>
> pressing a plurality of molding pins of an indent molding mechanism onto the front surface of the sintered alloy layer to form indents having the same shape in the sintered alloy layer;
>
> rolling the sintered alloy layer with the indents formed therein together with the back metal; and
>
> conducting a secondary sintering of the sintered alloy layer having the indents formed therein to produce the sliding member.

REJECTIONS ON APPEAL

1. Claims 2, 5, and 6 stand rejected under 35 U.S.C. § 102(b) as anticipated by, or, alternatively, under 35 U.S.C. § 103(a) as obvious over Kurono et al. (JP 2009-002410 A, published Jan. 8, 2009) (hereinafter "Kondo")[3];
2. Claims 5 stands rejected under 35 U.S.C. § 102(b) as anticipated by, or, alternatively, under 35 U.S.C. § 103(a) as obvious over

[3] Because the Examiner and Appellants both refer to Kurono et al. as Kondo, we will do the same in this Decision.

Takayama et al. (US 6,322,902 B1, issued Nov. 27, 2001) (hereinafter "Takayama");

3. Claim 6 stands rejected under 35 U.S.C. § 103(a) as obvious over Takayama; and
4. Claim 2 stands rejected under 35 U.S.C. § 103(a) as obvious over Takayama in view of Tanaka et al. (US 5,328,772, issued July 12, 1994) (hereinafter "Tanaka").

DISCUSSION

First Ground of Rejection

Appellants argue that the Examiner erred in finding that Kondo discloses or suggests a method for manufacturing a sliding member that includes pressing a plurality of molding pins of an indent molding mechanism onto the front surface of a sintered alloy layer to form indents having the same shape in the sintered alloy layer *prior to* rolling the sintered alloy layer with the indents formed therein together with the back metal. Br. 4.

Kondo teaches a method for manufacturing a sliding member (Fig. 1) including a concave part molding mechanism 17 provided with a roll kneader 18 and a forming roll 21 with pins 21A on its outer surface (Kondo ¶ 10; Figs. 3 and 4). When back plate 3 and sintered alloy 4 pass between kneader 18 and forming roll 21, pins 21A are pressed onto the front surface of sintered alloy 4 to form indents (concave part 5) having the same shape in the sintered alloy layer. As shown in Kondo's Figure 4, sintered alloy layer 4 is at least partially indented prior to contacting lower wheel 18 for the rolling step. *See also* Final Act. 3. Further, Kondo's Figure 4 shows

rolling sintered alloy 4 after the indentations are formed therein together with back metal 3. *See also* Ans. 9. When given its broadest reasonable interpretation, the scope of the claimed "pressing" and "rolling" steps in claim 5 encompass pressing and rolling as shown in Figure 4. Although Kondo also discloses another rolling step (rolling roll 16) that is performed prior to forming the indentations, Kondo teaches that this rolling step is optional (Kondo ¶ 10). Further, Appellants claim 5 uses the transitional phrase "comprising," and thus does not exclude additional steps such as a rolling step performed prior to its pressing step. Thus, we are not persuaded by Appellants' argument that the Examiner reversibly erred in finding that the method of claim 5 is identically disclosed or described in Kondo to constitute anticipation within the meaning of 35 U.S.C. § 102(b).

Even if we were to find that Kondo does not anticipate the method of claim 5, which we do not, because Kondo discloses at least all the claimed steps, albeit in a different order according to Appellants, Kondo would render the claimed method obvious. *In re Burhans*, 154 F.2d 690, 692 (CCPA 1946) (where a combination of prior art suggests the claimed process, reordering the steps is not patentable absent proof in the record that the order of performing the steps produces a new and unexpected result.). Appellants do not contend that it would not have been obvious to one skilled in the art to rearrange the order of the steps in Kondo. *See* Br. 4–6. Although Appellants present evidence in Figures 9 and 10 of their application demonstrating differences between a sliding member prepared using the claimed method and one prepared using a "conventional" method, which Appellants contend is representative of Kondo's method (*see* Br. 4–6), Appellants have not established that the obtained differences (e.g.,

uniform hardness and lack of work hardening) would have been unexpected. *See In re Freeman*, 474 F.2d 1318, 1324 (CCPA 1973) (to show unexpected results, applicant must establish: "(1) that there actually is a difference between the results obtained through the claimed invention and those of the prior art . . . and (2) that the difference actually obtained would not have been expected by one skilled in the art at the time of invention") (citation omitted).

In view of the foregoing, we sustain the rejection of claims 2, 5, and 6 as anticipated by, or, alternatively as obvious over Kondo.

Second and Third Grounds of Rejection

The method of claim 5 requires that the indents formed on the front surface of the sintered alloy layer have the same shape. Claim 6 depends from claim 5 and requires that each of the indents have a semispherical shape and a diameter of from 3–4 mm.

Appellants argue that the Examiner erred in finding that Takayama teaches or suggests a method for manufacturing a sliding member that includes pressing a plurality of molding pins onto the front surface of a sintered alloy layer to form indents "each having the same size" in the sintered alloy layer. Br. 7.[4]

Appellants' argument is not persuasive of reversible error in the Examiner's second and third grounds of rejection. Takayama teaches a method of manufacturing a sliding member that includes press molding concave portions (indents) into a sintered alloy layer formed on the front

[4] As the Examiner correctly points out, claim 6 does not require that the indents "each [have] the same size." Ans. 10.

surface of a back metal. Takayama 12:42–53; Figs. 9(a)–(d). The indents depicted in Takayama's Figures 9(a)–(d) appear to be made using a plurality of molding pins, when the term "pins" is given its broadest reasonable interpretation (*see* Figs. 3 and 4 of the current application depicting Appellants' molding pins), and appear to have the same shape, e.g., semispherical, and size in the sintered alloy layer.[5]

Appellants also argue that the technical problem that motivated the development of the claimed method is not disclosed by Takayama. Br. 7. We do not find Appellants' argument persuasive of reversible error in the Examiner's rejections. For a prima facie case of obviousness to be established, the reference need not recognize the same problem solved by the Appellants. *See In re Kemps*, 97 F.3d 1427, 1430 (Fed. Cir. 1996); *see also KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 420 (2007) (stating that it is "error ... to foreclose [an obviousness] reasoning by holding that courts and patent examiners should look only to the problem the [applicant] was trying to solve.").

In view of the foregoing, we sustain the rejection of claims 5 and 6 as obvious over Takayama.

Fourth Ground of Rejection

Claim 2 depends from claim 5 and requires that the back metal is made of a steel material whose front surface is pre-plated with copper.

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[5] Appellants do not dispute the Examiner's finding that Takayama discloses a sintered alloy layer with a thickness of 8 mm (Takayama 3:44–47), and teaches or suggests indents each with a diameter of about half the thickness of the sintered alloy layer (e.g., 4 mm). Final Act. 6.

In the fourth ground of rejection, the Examiner rejects claim 2 under 35 U.S.C. § 103(a) over Takayama in view of Tanaka. In addressing the rejection, Appellants refer back to their arguments regarding Takayama, and further argue that the Examiner's reliance on Tanaka does not cure the deficiencies contained in the Takayama reference. Br. 7–8. As discussed above, Appellants' arguments are not persuasive of error in the Examiner's rejection of claim 5 under 35 U.S.C. § 103(a) as obvious over Takayama. Accordingly, we sustain the rejection of claim 2 as obvious over Takayama in view of Tanaka.

DECISION

For the above reasons, the rejections of claims 2, 5, and 6 are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED